

# Cloud in a Bottle

## Materials

2 2 liter plastic bottles w/ caps  
cold water  
warm/hot water  
matches

## Procedure (cold water)

1. Pour 20 ml of cold (nearly freezing) water in 1 2 liter plastic bottle. Label bottle A.
2. Swirl the water around the bottle.
3. Strike a match. Drop the match into the plastic bottle.
4. Cap the plastic bottle.
5. Squeeze the bottle. Let go.
6. Record your observations.

## Procedure (hot water)

1. Pour 20 ml of hot (nearly boiling in 1 2 liter plastic bottle. Label bottle B.
2. Swirl the water around the bottle.
3. Strike a match. Drop the match into the plastic bottle.
4. Cap the plastic bottle.
5. Squeeze the bottle. Let go.
6. Record your observations.

## Questions/Reflections

1. Why was a match dropped into the bottles?
2. Explain why the water is swirled around each bottle.
3. Describe the “cloud” formed with cold water.
4. Compare the differences in cloud formation due to pressure in Bottle A.
5. Describe the “cloud” formed with warm water.
6. Compare the differences in cloud formation due to pressure in Bottle B.
7. Compare the differences in cloud formation with Bottle A and Bottle B.

## Real Life Correlations

1. How does this information explain the formation of hurricanes?

## **Georgia Performance Standards**

S4E3. Students will differentiate between the states of water and how they relate to the water cycle and weather.

c. Investigate how clouds are formed.

S6E3. Students will recognize the significant role of water in earth processes.

b. Relate various atmospheric conditions to stages of the water cycle.

*Created by Denise Cheek, 2010*